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Lynne M. Knobloch-Fedders

Marquette University, lynne.knobloch-fedders@marquette.edu

Kenneth L. Critchfield

James Madison University

Erin M. Staab

Emory University

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Informative Disagreements: Associations Between Relationship Distress, Depression, and Discrepancy in Interpersonal Perception Within Couples

Lynne M. Knobloch-Fedders

The Family Institute at Northwestern University, Evanston, IL
Department of Psychology, Northwestern University, Evanston, IL

Kenneth L. Critchfield

Department of Graduate Psychology, James Madison University, Richmond, VA

Erin M. Staab

Rollins School of Public Health, Emory University, Atlanta, GA

Abstract

This study evaluated the associations between relationship distress, depression symptoms, and discrepancy in interpersonal perception within couples. After completing a series of discussion tasks, couples ($N = 88$) rated their behavior using the circumplex-based Structural Analysis of Social Behavior Model (SASB; Benjamin, 1979,

1987, 2000). Overall, couple members were strikingly similar in their interpersonal perceptions, and tended to see themselves as friendly, reciprocal in their focus, and balanced between connection and separateness. As hypothesized, however, perceptual discrepancy was related to relationship distress and depression. Relationship distress was associated with discrepancy regarding transitive behavior focused on the partner, while depression was associated with disagreement about intransitive, self-focused behavior. Analysis of affiliation and autonomy revealed that relationship distress was associated with seeing oneself as reacting with more hostility than the partner sees, and perceiving one's partner as more hostile, more controlling, and less submissive than he or she does. Partners of depressed individuals viewed themselves as more controlling than their mate did. Men's depression was associated with disagreement between partners regarding men's self-focused behavior. Results underscore the importance of considering interpersonal perception when conceptualizing relationship distress and depression within intimate relationships.

Healthy interpersonal behavior, or *secure attachment relating* (Benjamin, Rothweiler, & Critchfield, 2006), is characterized by a baseline of friendliness, reciprocity of focus on self and other, and a balance between connection and separateness. Departures from these patterns have been linked to a wide range of individual and relational psychopathology (Benjamin, 1996, 2006). For example, interpersonal interactions marked by hostility, control, and distance have been implicated in the development and maintenance of depression (Coyne, 1976; Davila, Bradbury, Cohan, & Tochluk, 1997; Knobloch-Fedders, Knobloch, Durbin, Rosen, & Critchfield, 2013). Depressed individuals perceive higher levels of hostility from significant others, and report responding with less friendliness (Benjamin, Wamboldt, & Critchfield, 2006, p. 169), while partners of depressed persons exhibit more hostility and submission than do individuals from couples without depression (Knobloch-Fedders et al., 2013).

While intimate relationship distress and depression are strongly related (for review, see Rehman, Gollan, & Mortimer, 2008), questions remain as to whether the interpersonal correlates of relationship distress and depression are consensually experienced by both members of the couple, or whether they reflect perceptual distortions. In this study, we examine a key process relevant to the associations between relationship distress and depression: discrepancy in interpersonal perception between partners.

Accurate perception of another's interpersonal behavior, a component of *interpersonal sensitivity* (Bernieri, 2001), relates to a wide array of adaptive psychosocial variables, including competency at work, relationship skills, social and emotional functioning, and mental health (Hall, Andrzejewski, & Yopchick, 2009). In contrast, depression has been linked with perceptual inaccuracy, including biases toward expecting hostility and perceiving ambiguous reactions as negative (Coyne, 1976). For example, depressed individuals direct their attention selectively to sad faces (Gotlib, Krasnoperova, Yue, & Joormann, 2004), social threatening words (Mathews, Ridgeway, & Williamson, 1996), and emotional signs of disapproval or rejection (van Beek & Dubas, 2008; Ehrmantrout, Allen, Leve, Davis, & Sheeber, 2011).

However, the degree to which accurate perceptions versus expectation-linked biases are associated with depression remains unclear. Both features may be operative in the close relationships of depressed persons, as suggested by evidence reviewed in the following section.

Depression and Accuracy of Interpersonal Perception in Intimate Relationships

Although researchers have long been interested in the links between depression and accuracy of social perceptions (Kowalik & Gotlib, 1987; Siegel & Alloy, 1990; Strack & Coyne, 1983), only a handful of studies have assessed depressed individuals' accuracy in appraising the behavior of their intimate partners (Gadassi, Mor, &

Rafaeli, **2011**; Papp, Kouros, & Cummings, **2010**; Thomas, Fletcher, & Lange, **1997**). Within these studies, two specific components of interpersonal behavior have been examined: empathic accuracy and criticism.

Empathic accuracy (Ickes, **1993**) is the degree of consensus between an individual's perceptions of his or her partner's emotions and the partner's self-reported feelings. Both depressed individuals and their partners show lower levels of empathic accuracy compared to healthy controls (Gadassi et al., **2011**; Papp et al., **2010**), suggesting that perceptual distortions may exist for both members of the couple. For example, partners of individuals with depression symptoms showed difficulty identifying their spouse's anger in conflict interactions (Papp et al., **2010**).

Although *criticism* and other forms of hostility are strongly associated with relationship distress and depression (see Rehman et al., **2008**, for review), it is uncertain whether this reflects actual exposure to hostility from partners, globally negative perceptions made by those suffering from relationship distress or depression, or both. Given the negativity bias underlying the interpersonal perceptions of people who are depressed or relationally distressed (Bradbury & Fincham, **1990**; Epstein & Baucom, **2002**; Gotlib & Krasnoperova, **1998**; Ingram, Miranda, & Segal, **1998**; Overall & Hammond, **2013**; Townsley, Beach, Fincham, & O'Leary, **1991**), it is unclear how well their characterizations of their interpersonal behavior converge with their partners' views.

While the studies just reviewed focus on the specific processes of empathic accuracy and criticism, conceptualizing and measuring interpersonal behavior more broadly is a crucial next step for advancing scholarship in this area. Interpersonal behavior has been differentiated into two global categories, transitive and intransitive (Benjamin, **1979, 1987, 2000**), and perceptual discrepancy within both domains may be linked to relationship distress and depression. Transitive behavior directed at one's partner, also called *other-focused behavior*, includes actions like protecting, attacking, affirming, and blaming. Being in a relationship with a depressed person may prompt an individual to closely monitor his or her own behavior toward the partner so as to be positive, supportive, and avoid doing or saying the wrong thing (Harris, Pistrang, & Barker, **2006**). In contrast, intransitive or *self-focused* behavior is responsive to one's partner, and includes reactions such as trusting, sulking, submitting, or walling off. Due to their negatively biased views of self (Whitton, Larson, & Hauser, **2008**), people with depression may have difficulty interpreting their behavior in positive ways, and may "read" their reactions as more hostile than others do. These links suggest that relationship distress and depression may be differentially related to perceptual discrepancy according to the focus of behavior.

Gender may also play a role in interpersonal perception. Research on empathic accuracy has found that, compared to men, women do better at inferring their partners' thoughts and feelings (see Ickes, Gesn, & Graham, **2000**, for review; Thomas & Fletcher, **2003**). Thus, an important next step is to examine whether the nature and degree of discrepancy between partners is associated with relationship distress, depression, and gender (Smith & Peterson, **2008**).

Study Overview and Hypotheses

This study evaluated couples' perceptions of their interpersonal behavior during a series of structured discussions. It had two primary goals: (a) measure the type and amount of perceptual discrepancy within couples, and (b) investigate the associations between relationship distress, depression, and discrepancy.

We measured interpersonal behavior broadly by asking couple members to rate their interaction using the Structural Analysis of Social Behavior model (SASB; Benjamin, **1979, 1987, 2000**). SASB is a theoretically derived, empirically validated system for measuring interpersonal behavior. It organizes behavior according to its focus (on the self vs. on the other person), degree of affiliation (vs. hostility), and degree of autonomy (vs. enmeshment). SASB allows for clear operationalization of healthy interpersonal behavior and departures from it (Pincus, Dickinson, Schut, Castonguay, & Bedics, **1999**). It has been successfully employed to discriminate

between depressed and nondepressed couples suffering from relationship distress (Knobloch-Fedders et al., 2013), link couples' interactions to cardiac health risk (Smith, Uchino, Florsheim et al., 2011), and examine family interaction patterns and their developmental consequences (Humphrey, Apple, & Kirschenbaum, 1986; Skowron, Kozlowski, & Pincus, 2010).

We examined couples' perceptions of their interaction using the *divergent realities* approach (Welsh, Galliher, Kawaguchi, & Rostosky, 1999). This approach asks whether couple members perceive the same behavior differently. For example, do partners agree regarding how friendly a wife was during conversation with her husband? Does a husband agree with his wife regarding how submissive he was during their interaction? Evidence for divergent realities implies that couple members were not “on the same page” with each other in interpreting their interaction.

Following the divergent realities approach, we tested four primary hypotheses. First, we were interested in perceptual discrepancy within the domains of self-focused and other-focused behavior. For both sets of behavior, we predicted that relationship distress (*H1*) and depression (*H2*) are positively related to discrepancy in interpersonal perception between self and partner. Second, we assessed divergence along two behavioral dimensions—affiliation and autonomy—shown to distinguish relationship distress and depression among couples (Knobloch-Fedders et al., 2013). We predicted that relationship distress (*H3*) and depression (*H4*) are positively associated with discrepancy between self and partner ratings of affiliation and autonomy behavior. Finally, given prior evidence regarding gender differences in interpersonal perception (Thomas & Fletcher, 2003), we evaluated gender as a main effect, and also employed exploratory analyses to investigate whether gender moderates the links between perceptual discrepancy, depression, and relationship distress.

Method

This study was conducted as part of a larger program of research examining relationship distress and depression among couples. Couples were offered \$100 for participating in the current study, or 16 sessions of free conjoint treatment for participating in both the current study and a separate, follow-up study (not reported here) evaluating the process and outcome of psychotherapy.

Participants

Participants were recruited through newspaper, radio, and Internet advertisements, along with flyers posted in community centers, shopping centers, churches, and synagogues. These ads targeted couples in committed romantic relationships experiencing relationship distress and/or depression, and asked interested couples to call a research hotline for more information. Couples were ineligible if either partner reported suicidal ideation, domestic violence, or psychosis.

In response to recruitment, 401 couples called requesting more information, 284 agreed to have study information mailed to them, and 118 couples enrolled in the study. Of these, 30 couples were excluded because they did not complete the structured discussions. Therefore, the final sample consisted of 88 heterosexual couples ($N = 176$ individuals).

Of these couples, 77.3% were married, 15.3% cohabiting, and 7.4% dating; their average relationship length was 11.27 years ($SD = 11.66$ years, range 0.25–65 years). Participants ranged in age from 21 to 90 years old ($M = 43.54$, $SD = 12.39$); they were 70.9% White/Caucasian, 12.2% Black/African-American, 8.7% Latino/a, 5.8% Asian/Asian American, 1.7% Native American/Pacific Islander, and 0.6% Biracial. With respect to education, 1.7% did not finish high school, 5.1% completed high school, 16.0% attended some college, 8.0% had a technical school or associate's degree, 37.7% had a bachelor's degree, 25.7% had a master's degree, and 5.7% had a doctoral or professional degree.

Measures

Dyadic Adjustment Scale

Relationship distress was assessed using the 32-item Dyadic Adjustment Scale (DAS; Spanier, **1976, 1988**), which measures relationship satisfaction, expression of affection, and frequency of conflict. The DAS displays excellent measurement properties (Carey, Spector, Lantinga, & Krauss, **1993**; Kurdek, **1992**; Sabourin, Lussier, Laplante, & Wright, **1990**). Participants' average DAS score was 87.22 ($SD = 22.19$, range 9–134, $\alpha = .94$). Based on the recommended DAS cutoff score of ≤ 97 (Jacobson, Schmalings, & Holtzworth-Munroe, **1987**), 68.8% of participants qualified as relationally distressed.

Beck Depression Inventory

Participants completed the Beck Depression Inventory (BDI-1A; Beck & Steer, **1993**) to assess depression symptoms. The BDI is a 21-item measure that asks individuals to rate emotional, cognitive, and somatic symptoms of depression on a 4-point scale. The BDI shows high internal consistency, strong test–retest reliability, and utility for both community and clinical samples (for review, see Beck, Steer, & Garbin, **1988**). Using criteria developed by Beck and Steer (**1993**), the average BDI score across the entire sample reflected a moderate degree of depression symptoms ($M = 13.69$, $SD = 9$, range 0–47, $\alpha = .89$); 39.8% of participants reported none to mild depression symptoms (BDI score < 10), 36.4% reported mild to moderate symptoms (10–18), 17.0% reported moderate to severe symptoms (19–29), and 6.8% reported severe symptoms (≥ 30).

Assessment of couples' interpersonal behavior

In an observational laboratory equipped with comfortable chairs, coffee tables, and concealed cameras and microphones, a research assistant led each couple through a 50-minute videotaped interaction task consisting of six standardized discussions. Couples began with a 5-minute problem-solving task, and then discussed conflicts within two 10-minute discussions. Next, they engaged in two 10-minute conversations about how they cope with each partner's mood and anxiety symptoms. Finally, during the last, 5-minute segment, couples were asked to discuss the three best things about their relationship.

Ratings of interpersonal behavior

Immediately after completing the structured discussion tasks, participants rated their own and their partner's interpersonal behavior during the interaction using SASB's self-report Intrex questionnaire (Benjamin, **2000**).

Structural Analysis of Social Behavior

Structural Analysis of Social Behavior is a measurement model of interpersonal behavior built around three constructs: *behavioral focus*, *affiliation*, and *interdependence*. Interpersonal *focus* of behavior is measured within two broad domains: “I focus on you” (other focus) or “I react to your focus on me” (self focus; Benjamin, **2006**, p. 20).¹ These two types of behavioral foci are represented spatially using two separate circular (“circumplex”) surfaces (see Figure 1). *Focus on Other* (shown in the top circumplex of Figure 1) is transitive, describing behavior done to, for, or about another person (e.g., “he controls her” or “she protects him”). *Focus on Self* (represented in the bottom circumplex of Figure 1) is intransitive, describing behavior done to, for, or about the self in relation to the other person (e.g., “she submits to him” or “he relies on her”).

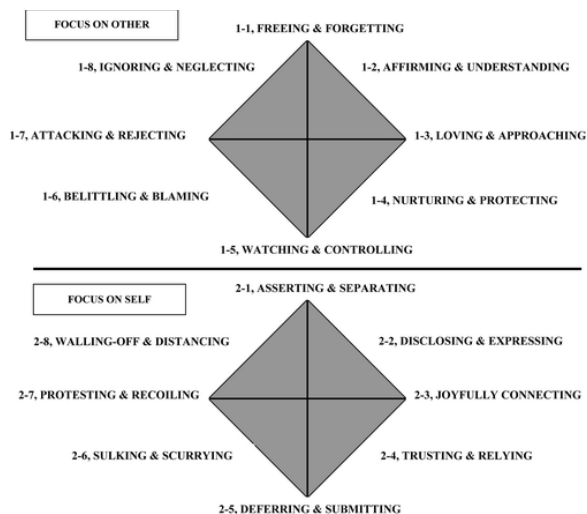


Figure 1 Structural Analysis of Social Behavior, two-word cluster model (Benjamin, 1987), copyright Guilford Press. Reprinted here with permission.

Each SASB circumplex is comprised of two bipolar orthogonal dimensions. Along the horizontal dimension, *affiliation* (AF) measures degrees of hostility to friendliness (see Figure 1), and ranges from hate (direct attack of another; fearful recoil from another's attack) to love (loving approach; welcoming connection). Along the vertical dimension, *autonomy* (AU) spans extremes of differentiation (give autonomy; be separate) to enmeshment (control; submit). For Focus on Other behaviors, the autonomy dimension ranges from granting autonomy to taking control; for Focus on Self behaviors, it extends from taking one's autonomy to submission.

Through the combination of behavioral focus, affiliation, and interdependence, SASB measures the full array of interpersonal behavior, including friendliness, hostility, enmeshment, and differentiation. Specific behaviors (defined by combinations of the underlying interpersonal dimensions) are represented on the SASB model as *clusters*. Descriptive labels for each cluster are shown in Figure 1.

SASB Intrex questionnaire

Participants rated their own and their partner's interpersonal behavior using the short form of the SASB Intrex questionnaire (Benjamin, 2000). Each of the Intrex's items measure a cluster of behavior on the SASB model. For example, the item "I let him speak freely, and warmly tried to understand him even if we disagreed" measures Affirming and Understanding behavior (see Figure 1). The degree to which each behavior was present in the interaction was rated from 1 (not at all true) to 100 (very true). Participants rated each of the Intrex's 16 items twice (once to describe their own behavior, and the second time to describe their partner's).

The Intrex has strong validity and psychometric properties across a variety of settings (Benjamin, 2000). Because the short form of the Intrex uses only one item to assess each cluster of behavior, the usual tests of internal consistency were precluded. However, the short form's item set is highly reliable with parallel sets of alternative items for each cluster,² and its test–retest reliability is also very strong (Benjamin, 2000).

Comparing couple members' ratings of the interaction

Intrex ratings were compared within couples using two complementary strategies. First, to measure discrepancy within the domains of other-focused and self-focused behavior (as in tests of *H1* and *H2*), profile-based Pearson correlation coefficients were used to index the degree of disagreement among partners, following recommendations in the Intrex manual (Benjamin, 2000). We supplemented these analyses with a second approach designed to investigate discrepancy in affiliation and autonomy behavior (as in *H3* and *H4*). In the following sections, these two methods for indexing discrepancy are described in more detail.

Discrepancy in interpersonal profiles

To assess the overall degree of discrepancy in interpersonal perception, profile-based Pearson correlation coefficients (calculated between self and partner ratings) were computed according to procedures outlined in the Intrex manual (Benjamin, 2000). These within-couple correlations were used as dependent variables in subsequent analyses.

Discrepancy in affiliation and autonomy behavior

The SASB scoring software developed by Benjamin (2000) calculates affiliation and autonomy scores (AF and AU) as weighted combinations of behavior. To index discrepancy between couple members, we employed difference scores in affiliation and autonomy ratings. The psychometric status of difference scores has been vigorously debated, with a variety of alternatives proposed. Recently, Laird and Weems (2011) demonstrated that using difference scores as predictors are equivalent to directly entering “informant” variables separately into regression models, as long as they are interpreted correctly. Difference scores are recommended to evaluate discrepancy among individuals in the same family because issues with reliability or spurious correlation are less common in this context (Carlton-Ford, Paikoff, & Brooks-Gunn, 1991).

Analytic strategy

To accommodate dependence in the dyadic data (Bryk & Raudenbush, 1992), multilevel modeling using SPSS version 22.0 was employed. The Actor–Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006) was used to evaluate both actor and partner effects of relationship distress and depression on discrepancy in interpersonal perception. *Actor effects* are the effects of an individual's independent variable score on his or her dependent variable score, while *partner effects* are the effects of the partner's independent variable score on the actor's dependent variable score (Kenny et al., 2006).

As a preliminary step before conducting hypothesis tests, maximum likelihood estimation was used to evaluate whether dyads should be distinguished by gender in multilevel models (Kenny et al., 2006). Omnibus tests revealed that indistinguishable models displayed significantly worse model fit relative to models which treated gender as a distinguishing variable. Thus, all multilevel models were constructed such that individuals were nested within couples, and partners were distinguished by an actor's sex (coded as *men* = 1, *women* = -1). As recommended by Kenny et al. (2006), all models employed restricted maximum likelihood as the method of estimation and heterogeneous compound symmetry as the covariance structure. Two random effects (variance in the intercepts and error variance) were included in each model. Predictors were grand-mean centered to make intercepts interpretable. Standardized regression coefficients (betas) are presented as effect size estimates.

Results

Descriptive statistics for the independent and dependent variables are displayed in Table 1. As a first step, preliminary analyses were conducted to compare men and women on these variables. Paired-sample *t*-tests revealed that, compared to men, women reported more relationship distress, $t(87) = 3.60, p = .001$, and depression symptoms, $t(87) = 2.81, p = .006$. With respect to interpersonal behavior, men rated themselves as more submissive, $t(87) = 2.35, p = .021$, and friendlier toward their partners, $t(87) = 2.55, p = .013$, than women rated themselves. Finally, men rated women as more controlling than women rated men, $t(87) = 4.16, p < .001$.

Table 1. Descriptive Statistics for Independent and Dependent Variables

	Men				Women			
	Min	Max	<i>M</i>	<i>SD</i>	Min	Max	<i>M</i>	<i>SD</i>
Beck Depression Inventory	1.00	39.00	11.94	7.85	0.00	47.25	15.44	9.76**
Dyadic Adjustment Scale	19.00	131.00	90.76	20.66	9.00	134.00	83.67	23.20***

Self ratings of behavior								
Affiliation (other focus)	-15.94	207.90	119.10	60.15	-121.31	207.90	100.46	70.77*
Autonomy (other focus)	-61.13	152.21	62.08	44.19	-97.88	152.21	58.82	56.54
Affiliation (self focus)	-106.13	207.90	116.40	74.09	-47.25	207.90	123.92	62.16
Autonomy (self focus)	-127.09	137.10	38.38	47.97	-100.50	151.65	55.32	50.45*
Partner ratings of behavior								
Affiliation (other focus)	-109.65	207.90	100.61	77.52	-207.90	207.90	88.54	85.90
Autonomy (other focus)	-41.03	152.21	69.19	47.47	-130.27	152.21	40.59	57.12***
Affiliation (self focus)	-130.46	207.90	107.69	75.77	-96.53	207.90	107.85	73.25
Autonomy (self focus)	-122.02	152.21	43.75	56.30	-93.56	207.90	54.40	49.37

Notes $N = 176$ individuals (88 men and 88 women). Self and partner ratings of behavior are from SASB Intrex. Lower scores for affiliation represent greater degrees of hostility; lower scores for autonomy represent greater degrees of control (for behavior focused on the other) and submission (for behavior focused on the self).

* $p < .05$; ** $p < .01$; *** $p < .001$.

Correlations between actor self-ratings and partner ratings of actors are presented in Table 2. Couples displayed a high degree of overlap in their interpersonal perceptions; correlations ranged from .220 to .493, and each of the four correlations were statistically significant at the $p < .01$ level. The Fisher r -to- z transformation (Fisher, 1915, 1921) was used to compare the magnitude of associations. For behavior focused on the other, affiliation ratings exhibited significantly more consensus than did autonomy ratings, $z = 2.94$, $p < .01$.

Table 2. Bivariate Correlations in Ratings of Affiliation and Autonomy Behavior for Actors Versus Partners

	Actors versus partners
Other-focused behavior	
Affiliation	.493***
Autonomy	.220**
Self-focused behavior	
Affiliation	.436***
Autonomy	.264***

Notes $N = 88$ couples.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Figure 2 displays the mean proportion of behaviors rated by actors and partners. Notably, couple members' ratings were remarkably similar to one another, and roughly conform to the characterization of secure attachment relating described by Benjamin, Rothweiler, and Critchfield (2006): a baseline of friendliness, reciprocity of focus on self and other, and a balance between connection and separateness.

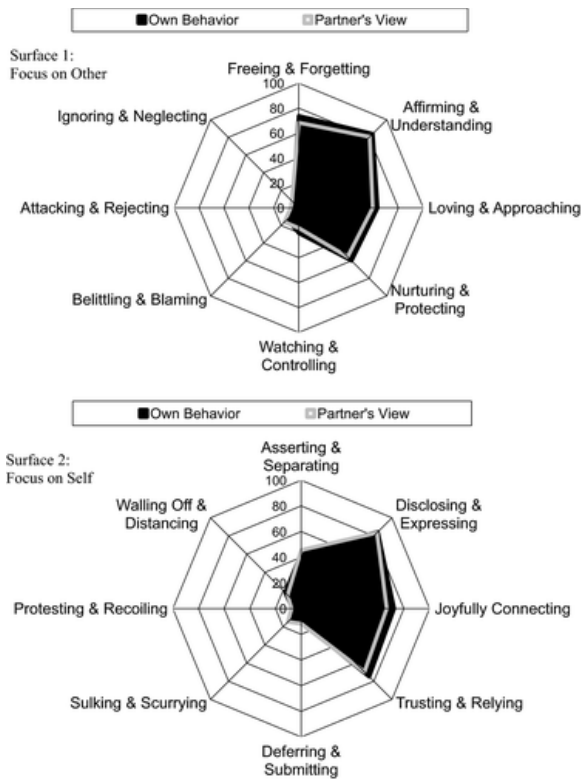


Figure 2 Comparison of mean proportions of self-ratings to partner ratings on the two-word cluster version of the SASB model shown in Figure 1.

Discrepancy in Ratings of Behavior Focused on Self and Other

To evaluate whether relationship distress and depression are associated with overall levels of discrepancy between partners, two multilevel models were constructed using Intrex within-couple profile correlations as dependent variables. Focus on Other behavior and Focus on Self behavior were tested in separate models. Each model contained nine Level 1 predictors: (a) actor sex; (b) actor and partner DAS scores; (c) actor and partner BDI scores; (d) two interaction terms calculated as the products of actor sex and actor and partner DAS scores; and (e) two interaction terms calculated as the products of actor sex and actor and partner BDI scores.

Gender main effects

Results of multilevel models (Table 3) revealed one gender effect. Couples disagreed more about men's self-focused behavior than women's, $\beta = -.17$, $t(83) = 2.53$, $p = .013$.

Table 3. Multilevel Models Predicting Correlations in Interpersonal Profiles Between Actor Versus Partner Ratings from Actor and Partner Effects of Relationship Distress and Depression Symptoms

	Actor versus partner	
	Behaviors focused on the other	Behaviors focused on the self
Fixed effects		
Intercept	.64*** (.04)	.62*** (.03)
Actor DAS	.17* (.09)	.16 (.09)
Partner DAS	.11 (.09)	.02 (.09)
Actor BDI	.01 (.08)	-.18* (.08)
Partner BDI	-.02 (.08)	-.11 (.08)
Actor Gender	.07 (.05)	-.17* (.07)
Actor DAS × Gender	.04 (.12)	-.15 (.11)

Partner DAS × Gender	-.00 (.12)	.10 (.11)
Actor BDI × Gender	.07 (.09)	-.18* (.08)
Partner BDI × Gender	-.09 (.08)	.05 (.08)
Random parameters		
Women	.92*** (.14)	.62*** (.10)
Men	.99*** (.15)	1.19*** (.19)

Notes $N = 176$ scores (2 individuals nested within 88 couples). Intercept values are based on unstandardized slopes. For fixed effects, cell entries are standardized slopes; values in parentheses are standard errors of the standardized slopes. For random parameters, cell entries are standardized covariance estimates; values in parentheses are standard errors of the standardized covariance estimates. DAS and BDI values are grand-mean centered. Actor's gender was coded such that 1 = *males*, -1 = *females*.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Relationship distress (H1)

Analysis of *H1* revealed that relationship distress was positively associated with discrepancy between partners. This effect was statistically significant for behavior focused on the other, $\beta = .17$, $t(161.90) = 2.00$, $p = .048$.

Depression symptoms (H2)

Depression symptoms were also associated with greater discrepancy within couples, but this time the effect involved self-focused behavior, $\beta = -.18$, $t(133.83) = 2.19$, $p = .030$. In addition, a depression symptoms × gender interaction emerged for actors' self-focused behavior, $\beta = -.18$, $t(126.33) = 2.16$, $p = .033$. To examine whether the respective parameter estimates for men and women differed from zero, a separate two-intercept model was constructed following recommendations by Kenny et al. (2006). This approach involves estimating and testing separate depression symptom coefficients for men and women, using dummy codes to identify whether an observation was from the male partner or from the female partner. Results revealed that men's depression symptoms were positively associated with discrepancy regarding their self-focused behavior, $\beta = -.31$, $t(86.05) = 2.50$, $p = .014$, but this effect did not reach significance for women, $\beta = -.10$, $t(85.70) = 1.33$, $p = .188$.

Discrepancy in Ratings of Affiliation and Autonomy Behavior

Next, we evaluated the nature and direction of perceptual discrepancy in affiliation and autonomy behavior.³ To test this, we utilized difference scores in affiliation and autonomy ratings (calculated as the difference between actors' ratings of their own behavior and partners' ratings of actors' behavior) as dependent variables.

Four multilevel models were constructed, each separately testing discrepancy using one SASB dimension (AF, AU) and one behavioral focus (Other, Self). Each model included nine Level 1 predictors: (a) actor sex; (b) actor and partner DAS scores; (c) actor and partner BDI scores; (d) two interaction terms calculated as the products of actor sex and actor and partner DAS scores; and (e) two interaction terms calculated as the products of actor sex and actor and partner BDI scores.

Relationship distress (H3)

Results of multilevel models (Table 4) revealed that relationship distress was associated with a divergent perception in which actors saw themselves responding with more self-focused hostility than was recognized by their partners, $\beta = .33$, $t(96.25) = 2.70$, $p = .008$. Meanwhile, partners' relationship distress was associated with viewing actors as more hostile (both for behavior focused on the other, $\beta = -.25$, $t(116.36) = 2.26$, $p = .025$; as well as for behavior focused on the self, $\beta = -.32$, $t(96.27) = 2.67$, $p = .009$); more controlling, $\beta = -.24$, $t(103.67) = 2.15$, $p = .034$; and less submissive, $\beta = .25$, $t(102.17) = 2.15$, $p = .034$, than actors saw themselves.

Table 4. Multilevel Models Predicting Difference Scores in Affiliation and Autonomy Ratings Between Actors Versus Partners from Actor and Partner Effects of Relationship Distress and Depression Symptoms

	Behavior focused on the other		Behavior focused on the self	
	Affiliation	Autonomy	Affiliation	Autonomy
Fixed effects				
Intercept	.02 (.01)*	.01 (.01)	.01* (.01)	-.01 (.01)
Actor DAS	.11 (.11)	.17 (.11)	.33** (.12)	-.19 (.12)
Partner DAS	-.25* (.11)	-.24* (.11)	-.32** (.12)	.25* (.11)
Actor BDI	-.10 (.09)	.12 (.08)	.07 (.09)	.10 (.08)
Partner BDI	.00 (.08)	-.26** (.08)	-.08 (.09)	-.11 (.08)
Actor Gender	-.07 (.09)	-.12 (.09)	-.10 (.10)	.03 (.09)
Actor DAS × Gender	.02 (.11)	-.07 (.09)	-.03 (.09)	.13 (.09)
Partner DAS × Gender	.02 (.10)	.10 (.09)	.12 (.09)	-.03 (.09)
Actor BDI × Gender	-.07 (.09)	-.06 (.08)	-.04 (.08)	.03 (.08)
Partner BDI × Gender	.06 (.08)	.04 (.08)	.04 (.08)	-.04 (.08)
Random parameters				
Women	.88*** (.14)	1.06*** (.17)	.97*** (.15)	.81*** (.13)
Men	1.12*** (.17)	.83*** (.13)	.98*** (.15)	1.09*** (.17)

Notes $N = 176$ scores (2 individuals nested within 88 couples). Intercept values are based on unstandardized slopes. For fixed effects, cell entries are standardized slopes; values in parentheses are standard errors of the standardized slopes. For random parameters, cell entries are standardized covariance estimates; values in parentheses are standard errors of the standardized covariance estimates. DAS and BDI values are grand-mean centered. Actor's gender was coded such that 1 = *males*, -1 = *females*.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Depression symptoms (H4)

Our final set of analyses revealed that partners of individuals with depression symptoms saw themselves as more controlling than their mate saw them, $\beta = -.26$, $t(139.27) = 3.13$, $p = .002$.⁴

Discussion

Given the importance of accurately reading interpersonal cues in creating and maintaining satisfying intimate relationships (Cohen, Schultz, Weiss, & Waldinger, 2012; Ickes, 1993; Priem, Solomon, & Steuber, 2009), this study evaluated the extent to which relationship distress and depression predict perceptual discrepancy within couples. Using the divergent realities approach, we examined differences in couple members' perceptions of their interpersonal behavior within a structured interaction.

Self-ratings of affiliation and autonomy behavior were moderately correlated with partner ratings, as has been found previously (Cui, Lorenz, Conger, Melby, & Bryant, 2005; Galliher, Enno, & Wright, 2008). Interestingly, couples tended to agree more about friendly versus hostile behaviors than they did about enmeshed versus differentiated behaviors. This suggests people perceive affiliation-related behaviors more accurately than those involving hierarchy or distance, consistent with suggestions that the horizontal axis of the SASB model may be primary to most interactions (Benjamin, Wamboldt, & Critchfield, 2006).

Overall, couple members' ratings were remarkably similar to one another, and reflected a pattern of secure attachment relating (Benjamin, Rothweiler, & Critchfield, 2006). Specifically, individuals tended to rate themselves and their partners using a baseline of friendliness, reciprocity of focus on self and other, and a

balance between connection and separateness. This was a surprising pattern of results: Given the levels of relationship distress and depression in this sample, interpersonal behavior problems can be expected, and have been observed empirically in our previous work (Knobloch-Fedders et al., **2013, 2014**). However, these data suggest that couples may rely on global impressions of their interaction when rating their behavior. Follow-up work comparing couples' perceptions with those made by outside observers will be extremely useful in contextualizing these results.

Despite the overall similarity of couple members' perspectives, discrepancy was associated with relationship distress and depression in important ways. Measuring interaction using SASB allowed us to distinguish between behavior focused on the other person versus behavior focused on the self (see Figure 1). *Other-focused* behavior is directed at one's partner, and includes transitive “action-type” behavior like controlling, rejecting, loving, and freeing. In contrast, *self-focused* behavior is responsive to one's partner, and includes intransitive “reaction-type” behavior such as distancing, protesting, relying, and disclosing.

Notably, relationship distress and depression were differentially related to discrepancy according to the focus of the behavior. Relationship distress seems to be accompanied by a disconnect between an individual's subjective experience concerning how he or she treats a partner, and how the partner might characterize that behavior. That is, relationship distress was associated with disagreement between partners regarding what an individual is “doing to” his or her mate. For example, affirming behavior may be interpreted as blaming, or controlling behavior may be seen as ignoring.

In contrast, depression symptoms in general, and particularly men's, were associated with misperceptions between partners regarding self-focused behavior. In other words, depression is reflected in divergent interpretations of one's response to one's partner (e.g., open disclosure may be perceived by a partner as sulking, or walling off may be perceived as submission). This coheres with work on empathic accuracy (Gadassi et al., **2011**; Papp et al., **2010**), which also highlights the inherent difficulty of interpreting a partner's internal and reactive cues within the context of depression.

Couples also disagreed more regarding men's self-focused behavior than women's. It may be that men and women “read” intransitive male relational behaviors (e.g., separating, trusting, submitting, or sulking) in differing ways. It is also possible that men's expressions of these behaviors are particularly difficult to interpret, given gender-stereotypic assumptions that men are less emotionally expressive than women (Fabes & Martin, **1991**).

Finally, we turned our attention to evaluating the magnitude and direction of perceptual discrepancy in affiliation and autonomy behavior. Notably, both relationship distress and depression were marked by discrepancy within these domains.

With respect to affiliation, relationship distress was linked with seeing oneself as reacting with more hostility than one's partner sees, as well as perceiving one's partner as more hostile than he or she does. Although the associations between hostility and relationship distress are well-established (see Rehman et al., **2008**, for review), our findings suggest that relationships are particularly dissatisfying when an individual doesn't fully express—or the partner does not fully perceive—the true extent of his or her hostility.

In regard to autonomy-related behaviors, relationship distress was associated with seeing one's partner as more controlling and less submissive than he or she does. This adds to empirical evidence suggesting that “power struggles” for control and autonomy may be one of the hallmarks of distressed relationships (Knobloch-Fedders et al., **2013**; Smith, Uchino, Berg & Florsheim, **2011**).

Depression showed a different set of associations. With respect to autonomy-related behaviors, partners of individuals with depression symptoms saw themselves as more controlling than their mate did. One explanation for this finding may be that, because depressed persons tend to behave in submissive ways (Barrett & Barber, 2007; Constantino et al., 2008), they elicit dominant behavior in response (Constantino et al., 2008; McCullough, 2000). Partners of depressed individuals may become particularly sensitive to their role in this dynamic, perhaps reflecting an increased sense of responsibility or need to monitor the depressed person.

Study Limitations and Future Directions

Three limitations of this study should be noted. First, we indexed depression as self-reported symptoms, rather than measuring it via clinical disorder according to standardized diagnostic criteria. A future investigation which directly teases apart differences between depressed and nondepressed participants is important.

Second, because our analysis was cross-sectional, we were unable to determine causality and temporality among our study variables. For example, it remains unclear whether depression and relationship distress develop first and evoke discrepant perceptions, or whether discrepant perceptions drive depression and relationship distress. Longitudinal work examining the temporal associations among interpersonal perceptions, relationship distress, and depression over time is a valuable next step, and is essential to develop and test causal explanations.

Finally, analysis of discrepancy is always dependent on the reliability and validity of the measures employed. Our use of the short form of the SASB Intrex precluded standard procedures for computing internal consistency. However, we are reassured by the fact that, although couples' ratings of their interpersonal behavior were strikingly similar, whatever perceptual discrepancies emerged were consistently associated with relationship distress and depression in hypothesized ways. However, our findings are in need of replication.

Our study points to some important avenues for future investigation. We encourage scholars to employ circumplex assessment, rather than focusing narrowly on a few relational constructs, to evaluate how larger and more heterogeneous samples of couples perceive their interpersonal behavior in the context of individual and relational pathology. Measuring behavior via circumplex-based systems allows for many refined analyses. For example, SASB can be used to evaluate whether specific behaviors are interpreted differently by individuals suffering from relationship distress or depression, or to investigate whether mixed-message communication impairs couples' ability to read each other accurately. Given that SASB provides a parallel system for observational assessment of behavior (Benjamin & Cushing, 2000), comparing couples' perceptions of their interaction with ratings made by outside observers may be a particularly fruitful next step.

Clinical Implications

With regard to intervention, our findings suggest that treatments designed to enhance perspective-taking, clear communication, and the ability to accurately observe the interpersonal behavior of self and partner may be especially useful for treating relationship distress and depression among couples. Given that couples suffering from relationship distress are prone to disagreements about how an individual treats the partner, clarifying this behavior seems particularly important. With respect to depression, helping couples understand how they react to each other's behavior may be helpful. Finally, given that both affiliation and autonomy are linked with perceptual discrepancy, emotion-focused couple therapy, specifically formulations that emphasize both attachment- and identity-related emotional processes (Goldman & Greenberg, 2013), may be especially relevant.

Notes

- 1 SASB also measures a third type of behavioral focus, *Focus turned Inward* or *Introject* (Benjamin, 2006). It was not used in this study due to its intrapersonal, rather than interpersonal, focus.
- 2 The short form is one of the two halves of the medium form of the Intrex questionnaire, which demonstrates excellent split-half reliability across a variety of studies described in the Intrex manual (Benjamin, 2000). For example, the average split-half reliability for a sample of 98 normal volunteers was .819 ($SD = 0.207$).
- 3 Because affiliation (AF) and autonomy (AU) are measured as bipolar dimensions, “more hostility” is equivalent to “less friendliness”, “more control” is equal to “less autonomy-granting”, and “more submission” is identical to “less autonomy-taking”. To facilitate interpretive clarity, we present our results using the negative poles of AF and AU (hostility, control, and submission).
- 4 In a series of follow-up analyses, we evaluated age and relationship length as predictors of perceptual discrepancy by including these variables in all of our multilevel models. All results remained stable, and no significant associations emerged, with two exceptions. Discrepancy regarding self-focused autonomy behavior was positively associated with partner age, $\beta = .34$, $t(87.97) = 3.92$, and negatively associated with relationship length, $\beta = -.32$, $t(85.00) = 3.79$, both $ps < .001$. Because a recent meta-analysis failed to find an association between relationship length and perceptual bias in individuals' reports of their intimate partners or romantic relationships (Fletcher & Kerr, 2010), however, we urge caution in interpreting these results until they can be replicated.

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